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(54) **BOAT COMPRISING AN INFLATABLE SUPPORT**

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CPC ***B63B 7/085*** (2013.01); ***B63B 7/082*** (2013.01)

(58) **Field of Classification Search**
CPC B63B 7/08; B63B 7/082; B63B 7/085; B63B 7/087; B63C 2009/042
See application file for complete search history.

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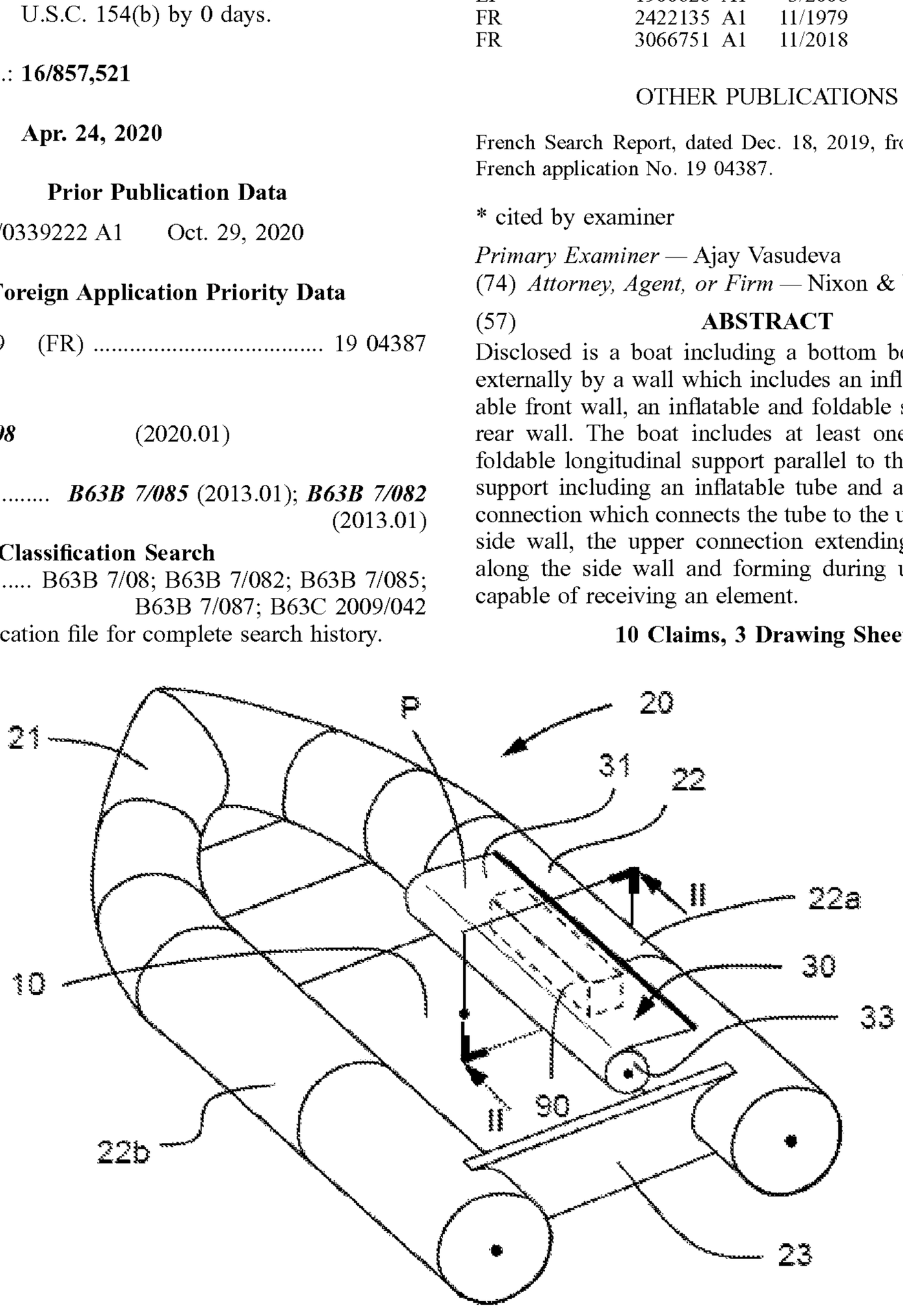
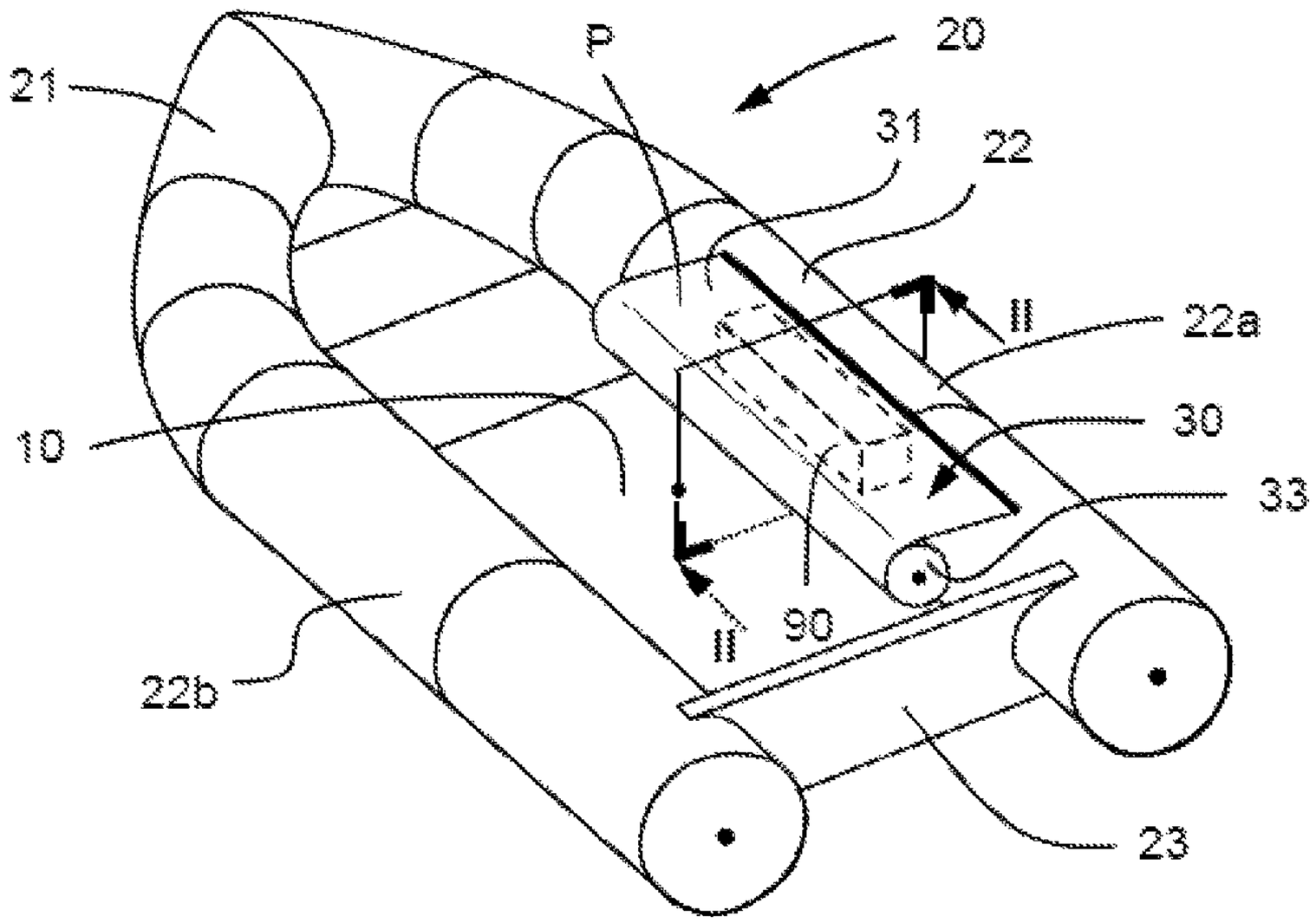
(57) **ABSTRACT**

Disclosed is a boat including a bottom bordered radially externally by a wall which includes an inflatable and foldable front wall, an inflatable and foldable side wall, and a rear wall. The boat includes at least one inflatable and foldable longitudinal support parallel to the side wall, the support including an inflatable tube and a foldable upper connection which connects the tube to the upper part of the side wall, the upper connection extending longitudinally along the side wall and forming during use a surface P capable of receiving an element.

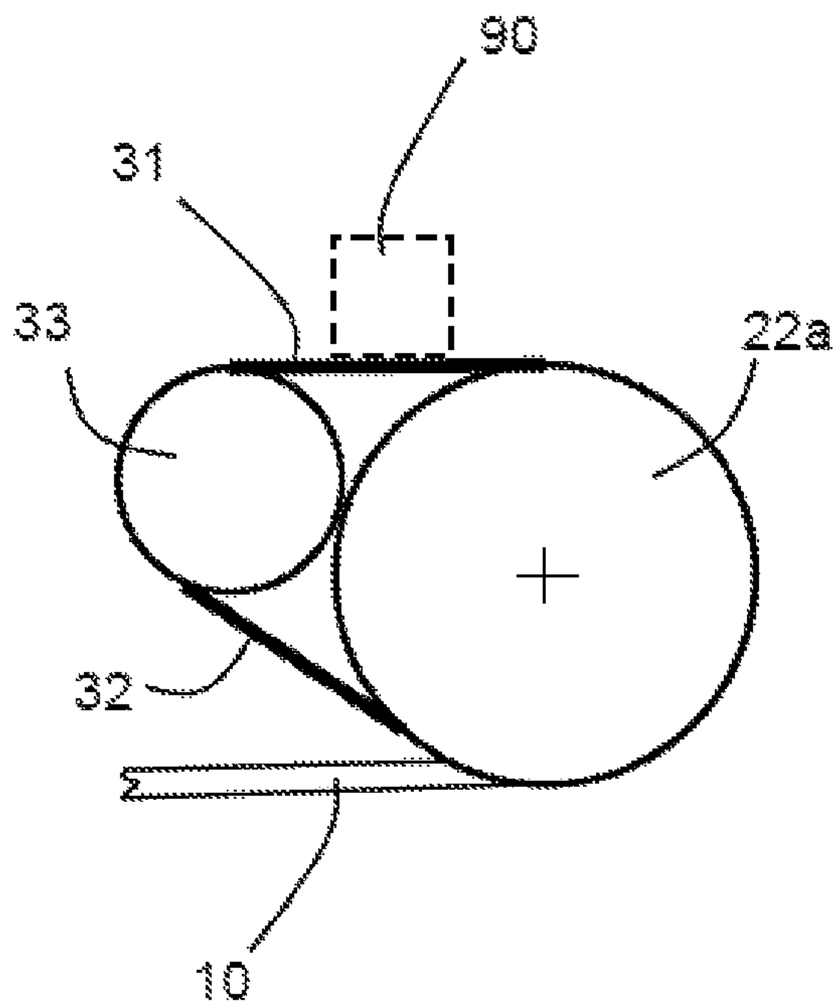
10 Claims, 3 Drawing Sheets



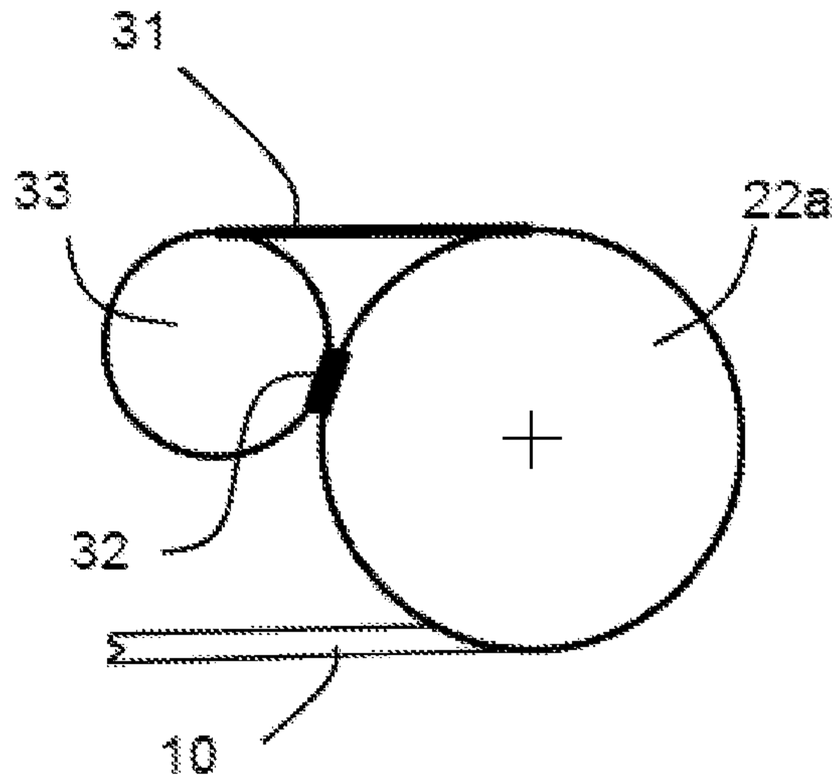
[Fig. 1]



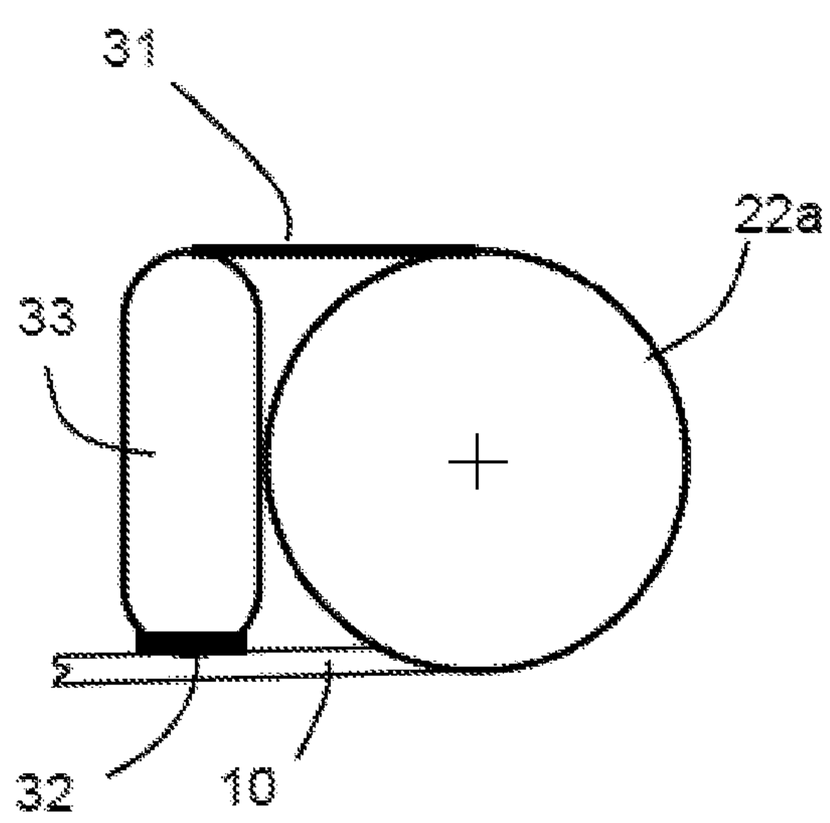
[Fig. 2]



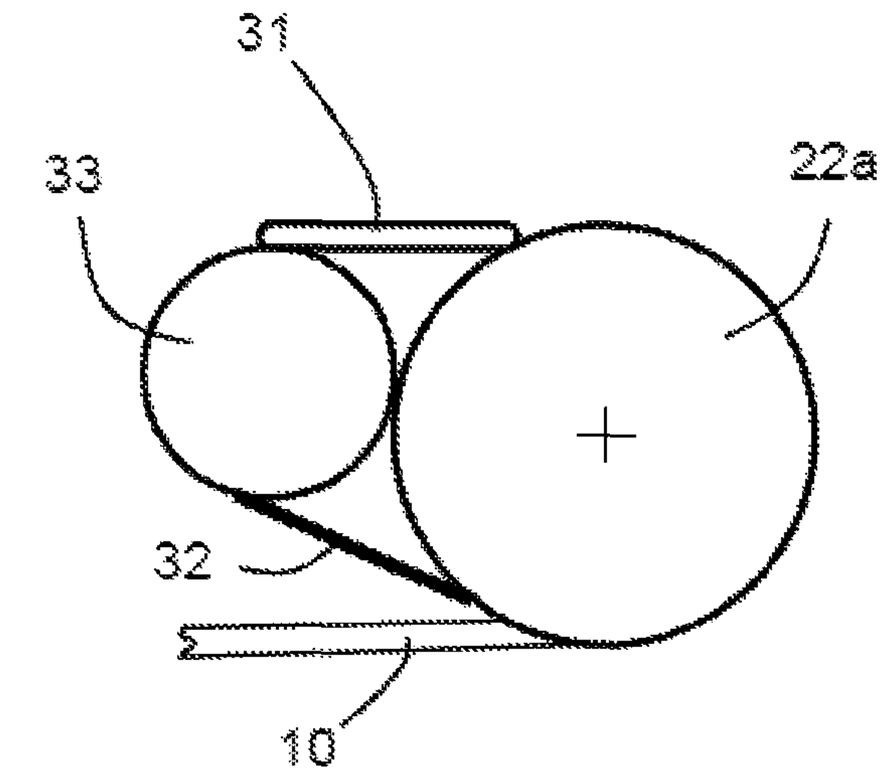
[Fig. 3]



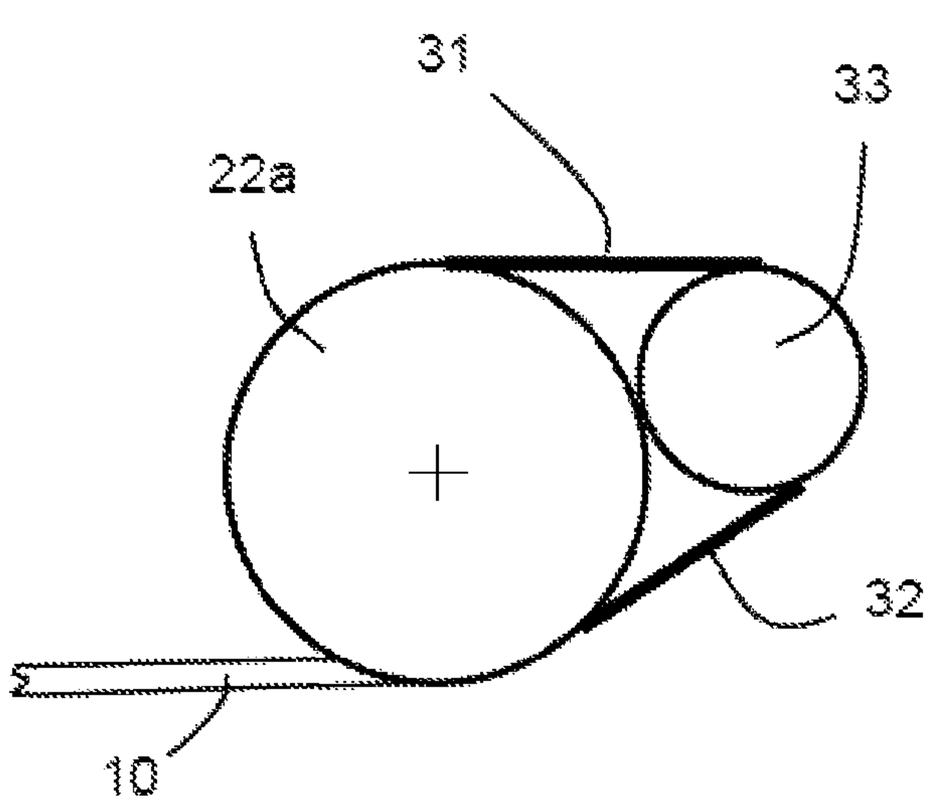
[Fig. 4]



[Fig. 5]



[Fig. 6]



BOAT COMPRISING AN INFLATABLE SUPPORT

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a boat comprising a bottom bordered radially externally by a wall which comprises an inflatable and foldable front wall, an inflatable and foldable side wall, and a rear wall.

Description of the Related Art

Such boats have the advantages of being significantly lighter in comparison to a boat of the same size with a rigid hull, and of occupying little space when not in use. Indeed, the front and side walls are inflatable and foldable, each forming a tube of circular cross-section filled with air. The bottom (floor) of the boat is either foldable (in the case of an inflatable/foldable boat) or rigid (in the case of a semi-rigid boat).

In the following description, the terms "internal"/"interior"/"inside" and "external"/"exterior"/"outside" are defined with respect to the geometric center of the boat once inflated.

The terms "lower"/"upper" are defined with respect to the vertical axis, which is perpendicular to the bottom of the boat which extends in a horizontal plane during normal use of the boat. This vertical axis is perpendicular to the running surface during normal use of the boat.

During use, boat passengers can sit inside the boat, and/or on the front and side walls. However, it would be useful and advantageous to have a horizontal surface in the boat capable of receiving a seated passenger, on which an object can be placed/transported, or else on which passengers can walk to embark/disembark, while allowing the boat to retain its initial folding or semi-rigid nature to the maximum extent.

SUMMARY OF THE INVENTION

The present invention aims to remedy these disadvantages.

The invention aims to provide a boat which has additional surface area capable of being a support for receiving one or more passengers and/or one or more objects, in other words an element.

This aim is achieved due to the fact that the boat comprises at least one inflatable and foldable longitudinal support parallel to the side wall, the support comprising an inflatable tube and a foldable upper connection which connects the tube to the upper part of the side wall, the upper connection extending longitudinally along the side wall and forming during use a flat surface capable of receiving an element.

With these arrangements, the boat comprises a support which is capable of receiving a non-zero weight, for example one or more passengers or objects. The inflatable and foldable nature of the support allows the boat to retain its initial inflatable or semi-rigid character, meaning that the support does not contribute to the rigidity of the boat.

For example, the upper connection is a flexible membrane.

For example, the upper connection is an inflatable part.

Advantageously, the flat surface formed during use by the upper connection is substantially horizontal.

The support is thus more suitable for serving as a support for an element, meaning an object, animal, or person.

Advantageously, the support is located on the inside and/or outside of the boat relative to said side wall.

The upper part of the side wall is thus kept free.

Advantageously, the support further comprises at least one lower connection which connects the tube to the side wall.

The support is thus better held against the side wall.

Advantageously, the one or more connections between the tube and the side wall are removable, such that the tube is removable relative to the side wall.

The functionalities and arrangement possibilities of the support surfaces of the boat are thus increased.

Advantageously, the bottom of the boat is foldable.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be best understood and its advantages most apparent from reading the following detailed description of some embodiments provided as non-limiting examples. The description refers to the accompanying drawings in which:

FIG. **1** is a perspective view of a boat according to the invention;

FIG. **2** is a sectional view of a side part of a boat according to the invention along line II-II of FIG. **1**;

FIG. **3** is a sectional view of a side part of an alternative to the embodiment of FIG. **2**;

FIG. **4** is a sectional view of a side part of yet another embodiment of a boat according to the invention;

FIG. **5** is a sectional view of a side part of yet another embodiment of a boat according to the invention; and

FIG. **6** is a sectional view of a side part of yet another embodiment of a boat according to the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. **1** is a perspective view of a boat comprising a bottom **10** bordered radially externally by a wall **20** which comprises an inflatable and foldable front wall **21**, an inflatable and foldable side wall **22**, and a rear wall **23**. For example, the rear wall **23** is rigid.

The side wall **22** consists of a port side wall **22***b* and a starboard side wall **22***a* parallel to the port side wall **22***b*.

The bottom **10** may be rigid (in the case of a semi-rigid boat) or foldable.

The boat comprises an inflatable and foldable longitudinal support **30** which extends parallel to the side wall **22**, the support **30** comprising an inflatable tube **33** and a foldable upper connection **31** which connects the tube **33** to the upper part of the side wall **22**.

The upper connection **31** is thus either a membrane or an inflatable part.

During use, the upper connection **31** is under tension and it defines a flat surface P extending longitudinally along the side wall **22** and forming a surface capable of receiving and supporting an element **90**.

This element **90** has a non-zero weight, and is either an object such as goods, a person, or an animal.

In the case of a person, the surface acts as a bench on which the person can sit or walk. The surface can also serve as a stretcher.

Depending on the conformation of the upper connection **31**, and of the lower connection **32** if there is such (see below), the flat surface P is horizontal or inclined relative to the horizontal.

The fact that the support **30** is inflatable and foldable allows the boat to retain its at least partially inflatable character. It also makes it possible to reduce the volume and to retract the support **30** in situations where the support **30** is not used.

For example, the tube **33** has a cylindrical shape with a circular cross-section.

This embodiment is illustrated in FIG. **1**, and in FIG. **2** which is a partial cross-section of FIG. **1** and which illustrates the starboard side wall **22***a* and the support **30**.

The support **30** further comprises a foldable lower connection **32** which connects the tube **33** to another part of the boat.

For example, as represented in FIG. **2**, the lower connection **32** connects the tube **33** to the lower part of the starboard side wall **22***a*, therefore of the side wall **22**.

The lower connection **32** is thus either a membrane (flexible membrane) or an inflatable part.

The upper connection **31** connects the upper part of the tube **33** to the upper part of the starboard side wall **22***a* and is under tension. The lower connection **32** connects the lower part of the tube **33** to the lower part of the starboard side wall **22***a* and is under tension. The tube **33** is therefore pressed and held against the starboard side wall **22***a* by the upper connection **31** and the lower connection **32**. The area of contact between the tube **33** and the starboard side wall **22***a* is therefore located between the upper connection **31** and the lower connection **32**.

The retention of the tube **33** is more effective due to this double connection.

The attachment between the upper connection **31** or the lower connection **32** on the one hand, and the tube **33** or the starboard side wall **22***a* on the other hand, is achieved by any suitable means, for example by permanent attachments (seam, glue) or by removable attachments (velcro strips, rope passing through eyelets distributed longitudinally along the upper connection **31** or the lower connection **32** on the one hand, and along the tube **33** or the starboard side wall **22***a* on the other hand).

Advantageously, at least one of the attachments of the upper connection **31** and at least one of the attachments of the lower connection **32** is removable. The tube **33** is thus removable relative to the starboard side wall **22***a*.

Illustrated in FIG. **3** is a variant of the configuration in FIG. **2**. The lower connection **32** is located at the area of contact between the tube **33** and the starboard side wall **22***a*.

The tube **33** may have any shape, other than cylindrical with a circular cross-section.

For example, the tube **33** is shaped so that, when inflated, it has an oblong cross-section elongated in the vertical direction, such that the tube **33** touches the bottom **10**. For example, a lower connection **32** connects the tube **33** to the bottom **10**.

This embodiment is illustrated in FIG. **4**.

The tube **33** also touches the starboard side wall **22***a*. Additionally or alternatively, a lower (additional) connection **32** connects the tube **33** and the starboard side wall **22***a* at their area of contact.

Illustrated in FIG. **5** is a variant of the configuration in FIG. **2**. The upper connection **31** is an inflatable part which is shaped so that, once inflated, it has an oblong cross-section elongated in the horizontal direction. The upper connection **31** is fixed at one of its ends to the upper part of the starboard side wall **22***a*. The tube **33** has for example a circular cross-section and is fixed to the other end of the upper connection **31**.

The lower connection **32** connects the lower part of the tube **33** to the lower part of the starboard side wall **22***a*. The tube **33** is therefore pressed and held against the starboard side wall **22***a* by the upper connection **31** and the lower connection **32**. The area of contact between the tube **33** and the starboard side wall **22***a* is therefore located between the upper connection **31** and the lower connection **32**.

Additionally or alternatively, an (additional) lower connection **32** connects the tube **33** and the starboard side wall **22***a* at their area of contact.

Thus, advantageously, the support **30** further comprises at least one lower connection **32** which connects the tube **33** to the side wall **22**, which allows better securing the tube **33** to the side wall **22**.

In the above description, the support **30** has been described as connected to the side wall **22** while being located within the interior space of the boat. The upper connection **31**, and if present the one or more lower connections **32**, are then located within the interior space of the boat.

Alternatively, the tube **33** is connected to the side wall **22** so that it is located outside the boat.

This embodiment is illustrated in FIG. **6**.

The support **30** is thus located outside the boat. The upper connection **31**, and if present the one or more lower connections **32**, are connected to the side wall **22** as described above in the case where the support **30** is located within the interior space of the boat. The difference from the cases where the support **30** is located inside the boat is that the upper connection **31** and the one or more lower connections **32** are connected to the exterior part of the surface of the side wall **22** relative to the center of the boat, instead of being connected to the interior part of the surface of the side wall **22**.

This configuration increases the seating area of the boat while keeping the interior space of the boat available.

In the above description, the support **30** has been described as connected to the starboard side wall **22***a*.

Additionally or alternatively, the port side wall **22***b* also carries a support **30**, distinct from the support **30** connected to the starboard side wall **22***a*.

The support **30** may also extend beyond the side wall **22**, along the front wall **21** to the bow of the boat. In this case, the support **30** can serve as a support surface for a passenger when disembarking and/or embarking.

These configurations make it possible to increase the surface area of the support **30** capable of receiving an element **90**.

Advantageously, in all cases, the support **30** is located inside and/or outside the boat relative to the side wall **22**, and the upper connection **31** is fixed to the upper part of the side wall **22** or the upper part of the front wall **21** so as to leave free the top of this upper part. This upper part is thus free to access and is able to support an element.

In general, the boat may comprise several separate supports **30**, located inside and/or outside the boat, on the starboard side wall **22***a* and/or on the port side wall **22***b* and/or on the front wall **21**. These supports **30** may for example be any of the supports **30** described above.

The invention claimed is:

1. A boat comprising a bottom (**10**) bordered radially externally by a wall (**20**) which comprises an inflatable and foldable front wall (**21**), an inflatable and foldable side wall (**22**), and a rear wall (**23**), said boat comprising at least one inflatable and foldable longitudinal support (**30**) parallel to said side wall (**22**), said support (**30**) comprising an inflatable tube (**33**) and a foldable upper connection (**31**) which

connects said tube (**33**) to an upper part of said side wall (**22**), said upper connection (**31**) extending longitudinally along said side wall (**22**) and forming during use a flat surface (P) capable of receiving an element (**90**), wherein said upper connection (**31**) is an inflatable part.

2. The boat according to claim **1**, wherein the flat surface (P) formed during use by said upper connection (**31**) is substantially horizontal.

3. The boat according to claim **2**, wherein said at least one support (**30**) is located on the inside and/or outside of the boat relative to said side wall (**22**).

4. The boat according to claim **2**, wherein said support (**30**) further comprises at least one lower connection (**32**) which connects said tube (**33**) to said side wall (**22**).

5. The boat according to claim **1**, wherein said at least one support (**30**) is located on the inside and/or outside of the boat relative to said side wall (**22**).

6. The boat according to claim **5**, wherein said support (**30**) further comprises at least one lower connection (**32**) which connects said tube (**33**) to said side wall (**22**).

7. The boat according to claim **1**, wherein said support (**30**) further comprises at least one lower connection (**32**) which connects said tube (**33**) to said side wall (**22**).

8. The boat according to claim **7**, wherein said upper connection (**31**) and said lower connection (**32**) between said tube (**33**) and said side wall (**22**) are removable, such that said tube (**33**) is removable relative to said side wall (**22**).

9. The boat according to claim **1**, wherein said upper connection (**31**) between said tube (**33**) and said side wall (**22**) is removable, such that said tube (**33**) is removable relative to said side wall (**22**).

10. The boat according to claim **1**, wherein said bottom (**10**) is foldable.

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